

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

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**CONSTRUCTION DRAWINGS
AND
SPECIFICATIONS**





PROJECT: Mima Creek WRP

LANDOWNER: The Nature Conservancy

ADDRESS: _____

Prepared By: MES

Date: March 2010

Practice Code(s): Wetland Restoration PS 657 **Job Class:**  

UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION & MATERIAL SPECIFICATIONS

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XX: To be included for all construction plans and specifications.

Check if Applicable		Construction Specifications	Issue Date
	<u>Miscellaneous</u>		
<input type="checkbox"/>	CS-51	Cathodic Protection	July 2002
<input type="checkbox"/>	CS-52	Conduit and Pipelines	July 2002
<input type="checkbox"/>	CS-53	Valves & Meters	July 2002
<input type="checkbox"/>	CS-54	Metal Fabrication	July 2002
<input type="checkbox"/>	CS-55	Painting Metalwork	July 2002
<input type="checkbox"/>	CS-56	Rock Structures	July 2002
<input type="checkbox"/>	CS-57	Rock Surfacing	July 2002
<input type="checkbox"/>	CS-58	Timber Fabrication	July 2002
<input type="checkbox"/>	CS-59	Painting Woodwork	July 2002
<input type="checkbox"/>	CS-60	Well	July 2002
<input type="checkbox"/>	CS-61	Wire Mesh Gabions	July 2002
<input type="checkbox"/>	CS-62	Pump	July 2002
<input type="checkbox"/>	CS-63	Vegetation of Construction Sites	July 2002
<input type="checkbox"/>	CS-64	Fencing of Construction Sites	July 2002
<input type="checkbox"/>	CS-65	Drainage Filter	July 2002
<input type="checkbox"/>	CS-66	Erosion Control Blankets	July 2002
<input type="checkbox"/>	CS-67	Construction Fabrics	July 2002
<input type="checkbox"/>	CS-68	HDPE and LLDPE Liner	July 2002
<input type="checkbox"/>	CS-69	Geosynthetic Clay Liner	July 2002
<input type="checkbox"/>	CS-70	Contractor Quality Control	July 2002
<input type="checkbox"/>	CS-71	Roof Gutters & Downspouts	Jan 2004
	<u>Special Construction Specifications (Number with the 100 Series)</u>		
<input checked="" type="checkbox"/>	CS-342	Critical Area Planting	June 1996
	CS-		

Check if Applicable		Material Specifications	Issue Date
	<u>Miscellaneous</u>		
<input type="checkbox"/>	MS-201	Concrete Aggregates	July 2002
<input type="checkbox"/>	MS-202	Portland Cement	July 2002
<input type="checkbox"/>	MS-203	Concrete	July 2002
<input type="checkbox"/>	MS-204	Concrete Pipe	July 2002
<input type="checkbox"/>	MS-205	Corrugated Metal and Structural Plate Pipe	July 2002
<input type="checkbox"/>	MS-206	Plastic Pipe	July 2002
<input type="checkbox"/>	MS-207	Steel Pipe	July 2002
<input type="checkbox"/>	MS-208	Corrugated Plastic Tile	July 2002
<input type="checkbox"/>	MS-209	Woven and Non -Woven Fabrics	July 2002
<input type="checkbox"/>	MS-210	Aggregate Filters	July 2002
<input type="checkbox"/>	MS-211	Bedding	July 2002
<input type="checkbox"/>	MS-212	Rock	July 2002
<input type="checkbox"/>	MS-213	Steel Reinforcement	July 2002
<input type="checkbox"/>	MS-214	Metal, Structural	July 2002
<input type="checkbox"/>	MS-215	Galvanizing	July 2002
<input type="checkbox"/>	MS-216	Structural Timber & Lumber	July 2002
<input type="checkbox"/>	MS-217	Wood Preservatives & Treatment	July 2002
<input type="checkbox"/>	MS-218	Valves and Meters	July 2002
<input type="checkbox"/>	MS-219	Erosion Control Blankets	July 2002
<input type="checkbox"/>	MS-220	Corrugated Polyethylene Pipe	July 2002
<input type="checkbox"/>	MS-221	Preformed Expansion Joint Filler	July 2002
<input type="checkbox"/>	MS-222	HDPE and LLDPE Flexible Membrane Liner	July 2002
<input type="checkbox"/>	MS-223	Geosynthetic Clay Liner	July 2002
	<u>Special Material Specifications (Number with the 300 Series)</u>		
<input type="checkbox"/>	MS-_____	_____	_____
<input type="checkbox"/>	MS-_____	_____	_____

XX: To be included for all construction plans and specifications.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION
CS-01: "MOBILIZATION & DEMOBILIZATION"

1.1 SCOPE

The work shall consist of mobilizing equipment, supplies and securing bonds and permits necessary to do the work as stated in the contract and/or agreement and demobilization of excess materials and equipment from the work site.

1.2 FORCES AND EQUIPMENT

Mobilization may include costs for transporting personnel, equipment, operating supplies to the site, establishment of necessary facilities for the contractors operation and any permits, insurance and/or bonds required to do the work.

Demobilization may include the removal of equipment and facilities that were necessary to do the work.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION
CS-02: "POLLUTION CONTROL"

2.1 SCOPE

The work shall consist of performing work to control soil erosion, sedimentation, petroleum, dust and smoke from becoming air and/or water pollutants during construction.

2.2 MATERIAL SPECIFICATIONS

All permanent works shall meet the requirements of the applicable Washington Material Specifications. Temporary works which are to be removed may be of a lesser quality.

2.3 EROSION AND SEDIMENT CONTROL MEASURES AND WORKS

In addition to the measures shown on the drawings, erosion and sedimentation shall be controlled at the work site by use of a single or a combination of the following measures:

Staging of Earthwork Activities - The excavation and moving of soil materials shall be scheduled so that the smallest possible areas will be unprotected during construction activities.

Seeding - Seedlings to protect all disturbed areas shall be done in a timely manner in accordance with the methods common to the geographic area.

Mulching - Mulching may be used to provide temporary protection to soil surfaces from erosion.

Diversions - Diversions can be used to divert water away from work areas and/or to collect runoff from work areas for treatment and safe disposition.

Stream Crossings - Culverts or bridges shall be used where equipment is not allowed to ford streams.

Sediment Basins - Sediment basins can be used to collect and store sediment from eroding areas to protect properties and streams down slope from the construction site.

Sediment Filters - Straw bale filters or geotextile sediment fences shall be installed to trap sediment on-site from areas subject to soil erosion. Sediment filters shall be anchored with 2x2 stakes and shall have a minimum burial depth of 6 inches to control erosion under or around them. The sediment filters shall be removed when permanent measures are installed.

Burning - Local and state regulations concerning the burning of brush or slash or disposal of other materials shall be adhered to. Fire prevention measures shall be taken to prevent the start or spreading of fires which result from construction activities.

Dust Control - All public access or haul roads used by the contractor during construction activities project shall be sprinkled or otherwise treated to fully suppress dust.

Staging Equipment - All construction equipment shall be staged in a location and manner to minimize air, soil and water pollution.

Storage of Fuel and Lubricants - All fuel and lubricants shall be stored in containers and areas that are in conformance with the Washington State Department of Ecology and local regulations.

Servicing and Refueling Equipment - All fuel and lubricants used in the servicing of construction equipment shall be done in a manner that avoids spills and over filling. The Washington State Department of Ecology shall be notified immediately of any spill and the operator shall contain the spillage.

Sanitary Facilities - Sanitary facilities such as chemical toilets shall be located to prevent contamination of surface or subsurface water.

2.4 MAINTENANCE, REMOVAL AND RESTORATION

All pollution control measures shall be adequately maintained in a functional condition as long as needed during the construction operation. All temporary measures shall be removed and the site restored to the original conditions as practicable.

2.5 PERMITS AND REGULATIONS

All pollution control measures shall be consistent with all permits issues for the practice(s) being installed.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONSTRUCTION SPECIFICATION
CS-11: "EXCAVATION, COMMON"

11.1 SCOPE

The work shall consist of all common excavations to the lines and grade as shown on the drawings.

11.2 CLASSIFICATION

Common excavation applies to all materials that can be removed and transported by heavy duty construction equipment including boulders and loose rock less than 1 cu. yd. in volume.

11.3 SAFETY LAWS

The owner and/or contractor is responsible for compliance to all Washington State and local safety laws, ordinances and regulations applicable for excavation.

11.4 USE OF EXCAVATED MATERIALS

Excavated materials that conform to the material requirements for earthfill, as stated in the drawings and approved by the technical representative may be used to the extent as needed.

11.5 DISPOSAL OF WASTE MATERIAL

All surplus or waste material shall be disposed of in areas shown on the drawings or as approved by the landowner and the technical representative in accordance with all local, state and federal regulations. The disposal site shall be left in a neat, sightly condition, free of depressions and sloped to drain.

11.6 BRACING AND SHORING

Unstable excavated surfaces and/or other excavations as defined by state and federal regulations shall be supported to prevent soil movement.

11.7 STRUCTURE AND TRENCH EXCAVATION

Structure or trench excavation shall be approved by the technical representative before the placement of any structure or earth fill.

11.8 EXCAVATION OF BORROW MATERIAL

All borrow sites shall be left in a final condition with stable side slopes, removal of hazards, sloped to drain, free of depressions and other unsightly conditions. If specified in the plan, borrow areas and haul roads shall be fertilized and seeded.

11.9 OVER-EXCAVATED AREAS

All over-excavated areas shall be brought up to design elevation with compacted fill using NRCS Construction Specification CS-14 or CS-15 as approved by the technical representative.

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
WASHINGTON

CONSTRUCTION SPECIFICATION

CS-342 CRITICAL AREA PLANTING

342.1 SCOPE

The work shall consist of furnishing seed and fertilizer, seedbed preparation, and seeding of all area which was disturbed during construction or on specific areas which are shown or described on the drawing.

342.2 SEEDBED PREPARATION

Prepare the seedbed as for pasture and hayland plantings as common for the climatic area. The seedbed shall be firm, moist, and weed-free.

342.3 TIME AND METHOD OF SEEDING

The seeding will be performed as soon as construction is completed within the disturbed area and when moisture is adequate for germination and establishment. Seed shall be broadcast at the minimum rates given below.

342.4 SPECIES AND SEEDING RATE

<u>Species</u>	<u>Rate</u>	<u>Area</u>
Annual Ryegrass	10 lbs/acre	0.5 acres
Creeping Red Fescue	24 lbs/acre	0.5 acres

Seeding rates are given in pounds of pure live seed per acre.

342.5 FERTILIZER

<u>Kind</u>	<u>Rate</u>
16-20-20	250 lbs/acre

342.6 MULCH

Mulch with straw at a rate of 1.5 to 2.0 tons/acre if not seeded before October 1.

*United States Department of Agriculture
Natural Resources Conservation Service
Washington State
Olympia Area Office*

Inspection Plan
(Re: NEM Title 210, Par. 511.11)

JOB: NRCS-PS-657 Wetland Restoration
PROJECT: Mima Creek WRP Cost Share Agreement
LOCATION: Thurston County T16N, R3W, Section 20
JOB CLASS: III
DATE: March 2010
INSPECTOR: Molly Smith, NRCS West Area Engineer
1825 Black Lake Blvd. SW, Suite D
Olympia, WA 98512
(360)704-7785 – office
(360)951-7015 – cell
(360)704-7742 – fax

A pre construction meeting shall be scheduled with the design engineer and the assigned inspector at least two week prior to work beginning. At this time a project schedule will be submitted to NRCS.

The contractor shall notify the inspector at least two working days prior to beginning work.

GENERAL:

The work to be accomplished under this contract consists of excavating 2 shallow depression areas as shown on the drawings.

The project shall be designed and approved by NRCS.

The project is located off of Gate Road near the Black River in Thurston County.

The project will be administered by The Nature Conservancy (TNC) as a locally awarded contract. Project management shall be conducted by TNC, and construction inspection shall be conducted by NRCS personal.

ITEMS TO CHECK

1. Layout

Excavation

QUANTITIES

2 shallow excavations shall be staked in the field by NRCS prior to construction beginning.

~3484 cubic yards

Placement of Spoils

~3484 cubic yards

ITEMS OF WORK TO BE INSPECTED:

Definition of Terms (NEM 512.3)

Continuous Inspection: The continuous presence of an inspector to observe operations or perform tests and measurements at critical points in various operations and be immediately available for consultation in case of emergency or changes.

Periodic Inspection: Intermittent inspection during construction to observe operations, perform tests, or make measurements.

1. Layout

Before construction activities commence the NRCS inspector and a TNC representative will layout the project site. This will continue throughout construction as necessary.

2. Excavation

NRCS will periodically check elevations and excavation limits during construction.

Placement of Spoils

NRCS will periodically check spoils placement and depth.

4. Pollution Control/Erosion Control

TNC will secure all permits associated with these practices, and will be responsible for assuring that all pollution control measures are in accordance with the applicable permits.

5. Plantings

NRCS Practice Standard 342 Critical Area Planting will be followed to reseed exposed areas. Inspection at the end of the plant establishment period will be required.

6. Quantities

The inspector will complete the final as-built survey and drawings, and certify completion of the practices.

AUTHORITY:

Molly Smith, Project Engineer, Inspector

Date

Erica Fifer, Approving Engineer

Date

NOTE: Employees of the Natural Resources Conservation Service's Puget Sound Team may assist in the inspection of this project under the technical direction of the inspector.

DOCUMENTATION:

All observations and instruction given to the landowner or contractor shall be recorded in the construction inspection notes.

Photographic documentation shall be made of significant construction conditions, deficiencies and safety violations.

The projects shall be installed as designed. If any significant changes are necessary those changes shall be approved by NRCS prior to installation and shall be described in the revision block on drawing sheet number one. The revision block shall be signed and dated by NRCS and the Cooperator.

A set of drawings shall be maintained to indicate the as-built conditions. Changes during construction are to be recorded on these drawings in red.



OPERATION AND MAINTENANCE PLAN

"Wetland Restoration"

Landowner/Operator: The Nature Conservancy Date: March 18, 2010

Address: _____

Legal description of practice location: SEC 20 T 16N R 3W

OVERVIEW

A properly operated and maintained open water excavated area is an asset to your wetland project site. This area was designed and installed to entrap and provide storage of runoff water and ground water for beneficial use. The performance life of this installation can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. The following recommendations will help you in performing adequate operation and maintenance.

GENERAL RECOMMENDATIONS

- Maintain vigorous growth of desirable vegetative coverings. This includes reseeding, fertilization, and controlled application of herbicides when necessary. Periodic mowing may also be needed to control height.
- If fences are installed, they shall be maintained to prevent unauthorized or livestock entry.

SPECIFIC RECOMMENDATIONS FOR YOUR STRUCTURE

Reed canary grass control shall remain a priority to help ensure open water areas are maintained to provide habitat to the desired species.

CONTACT YOUR LOCAL NATURAL RESOURCES CONSERVATION SERVICE OFFICE FOR ANY ADDITIONAL TECHNICAL ASSISTANCE YOU MIGHT NEED FOR IMPLEMENTATION OF THIS OPERATION AND MAINTENANCE PLAN FOR YOUR STRUCTURE.